What is claimed is:

1.   A method of improving an image separable into at least a first color component
and a second color component, the first color component having pixels located at a

5   plurality of first pixel locations and a second color component having pixels located at a
plurality of second pixel locations, said method comprising the steps of:

noise filtering the first color component using pixel values of the first color
component for providing a noise-filtered color component having filtered pixel values at
the plurality of first pixel locations, and

10   adjusting the filtered pixel value of at least one first pixel location of the noise-
filtered color component using information indicative of a difference in pixel values of
the second color component at the second pixel locations adjacent to said at least one first
pixel location.

15   2.   The method of claim 1, wherein the difference in the pixel values is indicative of
an edge in the image.

3.   The method of claim 1, wherein the image has a first number of pixels and at least
one of the first and second color components has at most a second number of pixels

20   smaller than the first number.

4.   The method of claim 1, wherein the plurality of first pixel locations are different
from the plurality of second pixel locations.

25   5.   The method of claim 1, wherein the image is separable into three color
components in red, green and blue, and wherein the first color component is the red
component and the second color component is the green component.

6.   The method of claim 1, wherein the image is separable into three color

30   components in red, green and blue, and wherein the first color component is the blue
component and the second color component is the green component.

7.   The method of claim 1, wherein the image is separable into three color components in red, green and blue, and wherein the first color component is the green component and the second color component is the red component.

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8.   The method of claim 1, wherein the image is separable into three color components in red, green and blue, and wherein the first color component is the green component and the second color component is the blue component.

10   9.   The method of claim 1, wherein the image is a color image acquired from a sensor array having a Bayer matrix disposed thereon for color filtering.

10.   A device for improving an image separable into at least a first color component and a second color component, the first color component having pixels located at a

15   plurality of first pixel locations and the second color component having pixels located at a plurality of second pixel locations, said device comprising:

        means, for noise filtering the first color component using pixel values of the first color component for providing a noise-filtered color component having filtered pixel values at the plurality of first pixel locations and for providing signals indicative of the

20   noise-filtered color component, and

        means, responsive to the signals, for adjusting the filtered pixel value of at least one first pixel location of the noise-filtered color component using information indicative at least of a difference in pixel values of the second color component at the second pixel locations adjacent to said at least one first pixel location.

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11.   The device of claim 10, wherein the difference is indicative of an edge in the image.

12.   The device of claim 10, wherein the image has a first number of pixels and at least

30   one of the first and second color components has at most a second number of pixels smaller than the first number.

13.   The device of claim 10, wherein the plurality of first pixel locations are different from the plurality of second pixel locations.

5   14.   The device of claim 10, wherein the image is separable into three color components of red, green and blue.

15.   A computer program for improving an image separable into at least a first color component and a second color component, the first color component having pixel values

10   located at a plurality of first pixel locations and the second color component having pixel values located at a plurality of second pixel locations, said computer program comprising:

            a first algorithm for noise filtering the first color component using pixel values of the first color component for providing a noise-filtered first color component having filtered pixel values at the plurality of first pixel locations, and

15   a second algorithm, for adjusting the filtered pixel value of at least one first pixel location of the noise-filtered first color component using information indicative at least of a difference in pixel values of the second color component at the second pixel locations adjacent to said at least one first pixel location.

20   16.   The computer program of claim 15, wherein the difference in pixel values is indicative of an edge in the image.

17.   The computer program of claim 15, wherein the plurality of first pixel locations are different from the plurality of second pixel locations.

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18.   The computer program of claim 15, wherein the image is separable into three color components of red, green and blue.

19.   An image processing system having a color separation device for separating an

30   image into at least a first color component and a second color component for providing a first signal indicative of the first color component and a second signal indicative of the

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second color component, wherein the first color component has pixels located at a plurality of first pixel locations and the second color component has pixels located at a plurality of second pixel locations, said system comprising:

     a filtering unit, responsive to the first signal, for noise filtering the first color component using pixel values of the first color component for providing a noise-filtered color component having filtered pixel values at the plurality of first pixel locations and for providing a third signal indicative of the noise-filtered color component;

     an edge detection unit, responsive to the second signal, for providing information indicative at least of a difference in pixel values of the second color component; and

     an adjustment device, responsive to the third signal and the information, for adjusting the filtered pixel value of at least one first pixel location of the noise-filtered color component based on the difference in pixel values at the second pixel locations adjacent to said at least one first pixel location.

20.   The system of claim 19, wherein the difference in pixel values is indicative of an edge in the image.

21.   A method of improving an image separable into at least a first color component and a second color component using a noise filter, wherein the first color component has pixels located at a plurality of first pixel locations and a second color component has pixels located at a plurality of second pixel locations, and wherein the noise filter comprises a plurality of filter parameters, said method comprising the step of

     adjusting at least one of the filter parameters in the noise filter for noise filtering the first color component using pixel values of the first color component for providing a noise-filtered color component having filtered pixel values at the plurality of the first pixel locations, wherein said adjusting is based on information indicative of a difference in pixel values of the second color component at the second pixel locations adjacent to at least one first pixel location for providing the filtered pixel value of said at least one first pixel location.

22.   The method of claim 21, wherein the difference in pixel values is indicative of an edge in the image.

23.   A device for improving an image separable into at least a first color component and a second color component using a noise filter, wherein the first color component has pixels located at a plurality of first pixel locations and a second color component has pixels located at a plurality of second pixel locations, and wherein the noise filter comprises a plurality of filter parameters for filtering the first color component using pixel values of the first color component for providing a noise-filtered first color component having filtered pixel values at the plurality of first pixel locations, said device comprising

a module, capable of modifying the noise filter before or during the filtering of the first color component, by adjusting at least one filter parameter using information indicative of a difference in pixel values of the second color component at the second pixel locations adjacent to at least one first pixel location, for providing the filtered pixel value of said at least one first pixel location.

24.   The device of claim 23, wherein the difference in pixel values is indicative of an edge in the image.

25.   A computer program for improving an image separable into at least a first color component and a second color component using a noise filter, wherein pixels of the first color component are located at a plurality of first pixel locations and pixels of the second color component are located at a plurality of second pixel locations, and wherein the noise filter comprises a plurality of filter parameters, said computer program comprising

an algorithm for noise filtering the first color component using pixel values of the first color component for providing a noise-filtered first color component having filtered pixel values at the plurality of first pixel locations, wherein information indicative of a difference in pixel values of the second color component at the second pixel locations adjacent to at least one first pixel location is used to adjust at least one of the filter

parameters of the noise filter for providing the filtered pixel value of said at least one first pixel location.

26.   An image processing system having a color separation device for separating an image into at least a first color component and a second color component for providing a first signal indicative of the first color component and a second signal indicative of the second color component, wherein the pixels of the first color component are located at a plurality of first pixel locations and the pixels of the second color component are located at a plurality of second pixel locations, said system comprising:

an edge detection unit, responsive to the second signal, for providing information indicative at least of an edge in the image for providing a third signal indicative of the information; and

a filtering unit using a noise filter having a plurality of filter parameters for noise filtering the first color component for providing a noise-filtered first color component having filtered pixel values at the plurality of first pixel locations, responsive to the first and third signals, for adjusting at least one of the filter parameters in the noise filter before or during the filtering of the first color component based on the information.

27.   The system of claim 26, wherein the information is based on a difference in pixel values of the second color component at the second pixel locations adjacent to at least one first pixel location and said adjusting is for providing the filtered pixel value of said at least one first pixel location.

28.   A method of improving an image using a noise filter having a plurality of filter parameters, wherein the image comprises a sequence of image frames of which at least one frame has at least one preceding frame, and each of said at least one frame and said at least one preceding frame is separable into at least a first color component and a second color component, and wherein the first color component has pixels located at a plurality of first pixel locations and a second color component has pixels located at a plurality of second pixel locations, said method comprising the step of

adjusting at least one of the filter parameters in the noise filter for noise filtering the first color component of said at least one frame using pixel values of the first color component for providing a noise-filtered color component having filtered pixel values at the plurality of first pixel locations, wherein said adjusting is based on information

5   indicative of a difference in pixel values of the second color component of said at least one preceding frame at the second pixel locations adjacent to at least one first pixel location for providing the filtered pixel value of said at least one first pixel location.

29.   The method of claim 28, wherein the difference in pixel values is indicative of an
10   edge in the image.

30.   The method of claim 28, wherein the image is a video image.

31.   A device for improving an image using a noise filter, wherein the image
15   comprises a sequence of image frames of which at least one frame has at least one preceding frame, and each of said at least one frame and said at least one preceding frame is separable into at least a first color component and a second color component, and the first color component has pixels located at a plurality of first pixel locations and a second color component has pixels located at a plurality of second pixel locations, and wherein
20   the noise filter comprises a plurality of filter parameters for filtering the first color component of said at least one frame using pixel values of the first color component for providing a noise-filtered color component having filtered pixel values at the plurality of first pixel locations, said device comprising

a module, capable of modifying the noise filter before or during the filtering of the
25   first color component of said at least one frame, by adjusting at least one of the filter parameters in the noise filter using information indicative of a difference in pixel values of the second color component of said at least one preceding frame at the second pixel locations adjacent to at least one first pixel location, for providing a modified noise filter for filtering the first color component of said at least one frame for providing the filtered
30   pixel value of said at least one first pixel location.